

ABSTRACT

A measurement cell for an injection machine has a cavity formed between two removable and exchangeable internal metallic blocks equipped with a cooling and heating system. The internal metallic blocks are laterally isolated from bodies that hold the blocks by a space of air that restricts transversal heat transfer in the cavity due to the presence of two polymeric bars installed on its lateral edges to generate a one-dimensional heat transfer regime on the central zone of a plate of material to be analyzed. The measurement cell also has a set of fixed pressure and temperature sensors on the bodies connected to a data acquisition system to store signals therefrom and a removable and reusable unit of temperature sensors that possesses ceramic or metallic tubes assembled in a block carrier to guide and fix a group of at least three temperature sensors on the cavity also connected to the same data acquisition system. The tubes are supported by bodies that enable the reuse of the plate formed as such with the temperature sensors inside to measure the heating curves when the measurement cell is operated at high temperature with its heating system.